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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

LAVILLA, MICHAEL E

ART UNIT PAPER NUMBER

1775

DATE MAILED: 08/01/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/772,880

Applicant(s)

PAYNE, MARC JOHN

Examiner

Michael La Villa

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-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:
2. The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
 - I. Regarding Claim 1, lines 8 and 10, it is unclear what is meant by the phrase "selected from." It is unclear whether applicant intends to invoke Markush group language by this phrase. It is unclear what is the appropriate conjunction that concludes the second "selected from" clause.
 - II. Regarding Claim 6, it is unclear what is meant by the phrase "preferably isobutene, butane, pentane" Are the listed compounds only examples or is the claim limited to these compounds?
 - III. Regarding Claim 8, it is unclear what is meant by the phrases "preferably from" and "most preferably from." It is unclear what is the ratio of aluminum to transition metal atom to which the claim is limited.
 - IV. Regarding Claim 9, it is unclear what is meant by the phrase "said two or more can be linked to form one or more cyclic substituents." It is unclear how R1 to R4, R6 and R19 to R28 can be defined as being hydrocarbyl, etc. if they are cyclic substituents. Where would R1 end and R19 begin, for example. It would appear that the formulae of Claim 1 preclude cyclic substituents since the molecular

formulae do not contain interbonding between these individual substituents.

Furthermore, it is unclear whether or not the claim demands cyclic substituents on the occasion that the conditions for R1 to R4, etc. are satisfied.

V. Regarding Claim 3, it is unclear what is meant by the phrase "known amount of water." It is unclear what is meant other than the requirement that the contact with water is to result in a support as described in Claim 1 as having 1 to 10 weight percent water.

Claim Objections

4. Claims 1 and 4-8 are objected to because of the following informalities: The word "aluminum" as a stand alone word or as part of the name of other compounds is misspelled. Appropriate correction is required.
5. Claim 9 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The claimed interbonding that would be necessary to give rise to cyclic substituents would render these molecular species outside the scope of the molecular formulae of Claim 1 and hence not further limiting of Claim 1.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
 - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be

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patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Kimberley et al. WO 99/46303 in view of Chang EPA 0 323 716. Kimberley et al.

exemplifies contacting the claimed catalyst materials of formula I to an

alumoxane-containing support material, wherein the alumoxane-containing

support material is formed by impregnating the support material with already

formed alumoxane materials. See Kimberley et al. (Abstract; page 3, line 25

through page 7, line 33; page 8, lines 5-20; page 10, lines 10-23; and Examples).

Kimberley et al. teaches that the cocatalyst alumoxane containing support

material may be formed in situ. However, Kimberley et al. does not exemplify

that the alumoxane-containing silica support material is to be formed by

contacting trialkylaluminum compounds with hydrated support material, whereby

the alumoxane compounds are to be formed by reaction between water and the

trialkylaluminum compound. Chang teaches, in the context of metallocene

catalyzed reactions, that an alumoxane-containing support material may be

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formed in situ by contacting hydrated silica support materials with trialkylaluminum compounds, following which the catalyst metallocene may be added. See Chang (Abstract; page 2, lines 3-8; page 3, lines 29-44; page 4, lines 5-17; page 5, line 26 through page 6, line 6; and Examples 1 and 2). It would have been obvious to one of ordinary skill in the art at the time of the invention to form the claimed alumoxane-containing support material by the step of reacting hydrated support material with trialkylaluminum in the process of Kimberley, as Kimberley teaches that in situ formation is effective and as Chang teaches that this method is an effective in situ method of making alumoxane-containing support material prior to adding a transition metal catalyst. Kimberley exemplifies the claimed ratio of aluminum to transition metal of 1000:1 and 100:1.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael La Villa whose telephone number is (703) 308-4428. The examiner can normally be reached on Monday through Friday.
10. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (703) 308-3822. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

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11. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Michael La Villa
July 28, 2003

A handwritten signature in black ink, appearing to read 'La Villa', with a long horizontal stroke extending to the right.